

Intro.

This case study will endeavour to critically analyse how a primary school setting provides support and an inclusive environment for a child with hearing impairment displaying disruptive behaviour. For the purpose of this assignment the setting will be referred to as school X and the child will be referred to as child A.

School A is a welsh medium primary setting based within an area of high deprivation to which 13% of the children inclusive of Child A are in receipt of an Individual Development Plan (IDP) and 8% receive free school meals (FSM). It covers a wide catchment area, consequently becoming the primary choice of setting for many children. It boasts an annual intake of an average 60 children resulting in an occupancy of 545 children from nursery until Year 6 with many year groups having multiple classrooms. There are currently 40 members of staff including 1 SENCO, 17 teachers and 22 support staff. Within every classroom in the Foundation Phase (FP) there is a permanent member of support staff. However, within Key Stage 2 there are 4 members of staff tasked with supporting 9 classrooms.

Child A is a 10-year-old male who has had a diagnosis of bilateral hearing loss since 8 years old, resulting in him wearing two behind the ear hearing aids (BTE). In order to support Child A within the classroom, the educator must wear a microphone which reduces background noise, allowing Child A to hear the educator's voice clearly. The year 5 class child A attends consists of 30 children on a ratio of 2:1 where boys are dominant. Child A enjoys numeracy lessons as it is visual and challenging and physical education as he has a keen interest in football. However, he expresses a disinterest in literacy lessons and demonstrates a level of unsocial and disruptive behaviour during these daily lessons by refusal of tasks and constant interruptions. With a reduced attendance rate of 83% an IDP has been produced to focus upon improving these areas (Appendix 1).

Methodology.

The main aim of this case study was to critically analyse how a primary school setting provides support and an inclusive environment for a child with hearing impairment who displays disruptive behaviour.

To begin, a short observation of the classroom was taken by mapping the current layout. By doing so, I became more aware of Child A's location and surroundings within the classroom environment (Appendix 2). Furthermore, I monitored the acoustics and the temperature of the classroom daily by using a sound level reader and thermometer that was strategically placed behind Child A in order to see if there was a correlation between misbehaviour amplified acoustics and temperature (Appendix 3).

Then I proceeded to conducted 30 anecdotal observations within the classroom over a 2-week period. Each observation occurred at various times within the school day. As the principal investigator during these times, I observed and noted the learning environment and the nature of behaviour displayed by child A including non- verbal cues such as body language and facial expressions (Appendix 4). Furthermore, I took note of the strategies used to provide an inclusive environment for child A as well as the discipline strategies implemented if/ when disruptive behaviour occurred. As part of the observation, I noted the frequency that child A brought his hearing aids to school.

Following each observation, I conducted an informal discussion with the class teacher in order to obtain their perspectives on the type of behaviour that child A displayed during that session. In addition to this, an overview of Child A's behaviour and strategies used by the educator was also noted with the class teacher in order to obtain a full understanding of Child A's behaviour throughout the day, not just in observed lessons (Appendix 5).

In order to establish a further understanding of the effect of the hearing impairment on child A's behaviour and attitude within the home environment, an informal interview was conducted with his mother upon his entry to the setting. This would be beneficial

as it would help to portray an understanding of any events that occurred the previous night and allow the educator and support staff to implement a proactive approach for the forthcoming day by preparing strategies and interventions. Likewise, feedback on Child A's day was given to his mother at the end of the day, thus helping to maintain a positive home school relationship.

Findings

Having analysed the acoustic results of the classroom it became apparent that Child A's immediate environment was causing some discomfort being in front of a radiator and large window. This was apparent due to the frequent touching and adjustment of his hearing aids. Through desktop researching it is believed that hearing aids amplify any background noise (Noon, 2017), as previously mentioned, child A wears 2 (BTE) aids.

Having this information, it was necessary to alter Child A's surroundings, as it is believed that the sound within a classroom should measure between 30 and 35 decibels (Van Reenan & Karusseit, 2017, p1). However, by strategically placing the monitor behind Child A, the results indicated that the average sound levels within the class ranged between 35 and 50 decibels. In order to help reduce background noise for child A, the educator is asked to wear a radio aid transmitter (Appendix 6). This is an amplifying device that reduces any background noise and transmits the sound of the educator's voice directly to Child A's hearing aids via a loop or direct input connection (Disability Advisory Service, year unknown) at the appropriate and individual level for child A. However, whilst this method is appropriate for direct instruction from the educator, child A faces a barrier during class discussions as he finds it difficult to keep track of the discussions around the classroom. In order to overcome this, the educator must ensure that they pass the radio transmitter to the person who is currently speaking. Alternatively, as this could take time, the educator could repeat the conversations as child A is directly facing them, thus, providing an inclusive opportunity for child A to participate.

Although the results indicate a high level of noise which intrinsically affect Child A's ability to hear, it could pose harmful to other children within the classroom. Thus, suggesting appropriate calming measures that reduce background noise such as

placing tables on an angle around the room and turning off noisy equipment should be implemented for all children to receive a holistic environment for learning (ASHA, 2019). However, what was apparent that certain lessons produced higher levels than others, therefore over the day the acoustic levels could average out, however when comparing the acoustic results and classroom observations, it became apparent that child A was displaying negative behaviours within a loud environment. Consequently, reducing his concentration on the current task.

Not only did the results of the acoustic levels indicate a need for change but also the temperature readings also indicated somewhat of concern. Substantial evidence suggests that high temperatures can increase the levels of aggressive behaviour (Anderson, 2001, Baron & Ransberger, 1978, Bell, 1992). However, on the other hand, research also reports that cold temperatures can increase aggressive feelings (Howarth & Hoffman, 1984, Schneider *et al*, 1980, Worfolk, 1997). Therefore, one cannot pinpoint temperature as a direct influence on the Child's behaviour. Thus, resulting in an issue surrounding the provision of an optimal learning temperature for all children.

Having analysed all the non-physical key components of the environment, it became apparent that the physical layout of the classroom was an issue. Seating arrangements within a classroom is critical for a child with hearing impairment's learning (Gremmen *et al*, 2016, p749). According to NDCS (2015, p37) classroom seating arrangements "should be arranged so that the hearing impaired student is able to see other students". Alternatively, as hearing-impaired children rely more upon visual cues (Marschark *et al*, 2017, p1). Weber (2016) emphasises that educators should implement a "U shape" class arrangement as it encourages full visual access, participation and engagement within the classroom for the child as they are able to see all students and participate within their group. However, when analysing the seating plan (Appendix 2) Child A was sitting on the side of a long table of 6 children by a radiator and window. Although he was able to see his peers within the class, it became clear throughout the observations that Child A had a restricted view of the interactive whiteboard and the educator which reduced his ability to lip read in order to gain a clear understanding of the task.

This arrangement would be beneficial if child A was working in small groups, however from the observations it was clear that his current location was contributing to his misbehaviour. Therefore, requiring an alternative arrangement for Child A. The classroom was rearranged into a 'U shaped' layout (Appendix 7) where Child A was placed at the centre of the back row. This would benefit Child A as he would be able to fully participate in any discussions within the classroom as he would be seated in clear view of the whiteboard, educator and his peers away from the window and door which could produce background noise.

At the beginning of the case study I observed Child A for the morning numeracy lesson and a thematic lesson in the afternoon for 3 days, before increasing the observations due to a discussion with the class teacher on the display of child A's constant negative behaviour during literacy lesson before dinner.

My observations showed that child A displayed positive behaviour during the numeracy lessons by actively participating and answering questions in a calm and polite manner. He displayed positive body language by sitting upright and smiling. However, from my discussion with the class teacher, it was mentioned that child A's behaviour somewhat changed during literacy lessons. Child A's body language changed dramatically by demonstrating a slumped attitude, head on the desk and continuously fidgeting with pencils. This level of negative behaviour resulted in an increase in frequency of observations. Mitchell & Quiltner (1996) suggests a positive correlation between Hearing Impairments and elevated behaviour problems. In agreement, Van Eldik *et al* (2004, p390) report that there is a 30-38% likelihood that children with hearing impairment "exhibit external behavioural problems".

I referred to Child A's IDP which indicated an increased difficulty with language and literacy. As Vygotsky (1962) mentions, "language plays a central role in development and aids in internalising social norms and the development of behavioural control" to which a deficit can lead to behavioural issues (Barker & Quitter, 2009). In conjunction with the IDP, a suggestion of more visual cues was made as children with hearing impairment have a reduced access to the auditory environment and are highly dependent upon visual aids and representations in order to access information and surroundings (Gale, 2016). The following literacy lessons included a greater amount

of visual aids such as word mats and picture cues in order to allow child A full access to the lesson. This had a positive impact on Child A's behaviour as he showed more interest during the tasks. Therefore, the educator decided to continue using this strategy in order to further improve his behaviour.

To further support Child A, the educator proposed that he completed the task in the calm sensory room with a member of support staff to which he refused. Although, the educator thought it would benefit Child A by allowing him to receive a flexible and more direct education in a calm environment specifically adapted to suit his needs (Sweeney, 2007, p29) Child A felt that he was being segregated and would incur more incidents of bullying from his peers, which became clear after speaking with his mother as she mentioned that Child A did not want to come to school because he felt that other children were noticing his differences. Thus, requiring the educator to further adapt their strategies in order to provide an inclusive environment within the classroom by implementing methods such as a green and red disk (Appendix 8) where Child A had the option to visit the sensory room should his behaviour escalate.

Over time, it was apparent that Child A's behaviour improved within the classroom therefore, in addition to visual cues, the educator altered the classroom layout in order to better accommodate Child A's needs (Appendix 7). The results indicated a slight improvement in behaviour as Child A had a clear vision of the educator as well as his peers around the classroom. Having the layout in such a way promoted easy access for the educator to be able to repeat command and information directly to Child A as well as the classroom again promoting an inclusive environment.

For the educator to create an appropriate inclusive environment for child A, they consistently corresponded with Child A's parents. Theorists such as Urie Bronfenbrenner (1979) developed an ecological systems theory which highlights the influence of a child's environment on their development. As part of this theory, the microsystem concentrates on the effect of the immediate surroundings such as the home setting on Child A. The educator had constant communication with Child A's parents that would prove beneficial for Child A as it would allow the educator to gain valuable background information to implement appropriate strategies within the

setting. As well as this, it gave the family inclusive of Child A, a sense of participation regarding any strategies which correlates with the new ALN Bill for Wales (2017).

By continuously providing feedback it allowed the family to mirror similar strategies such as angled tables and monitoring acoustic levels at home. As 25-38% of parents of hearing-impaired children report that their children display more internalising difficulties such as anxiety, withdrawal and depression (Albano, Chorpita & Barlow, 2003), by increasing consistency between home and educational setting it could have a possible positive impact on Child A's behaviour. This also corresponds with the settings inclusive and SEN policy where an expectation and duty is placed upon the setting to adapt and make appropriate changes for every child to equally access a fair education.

Conclusion.

In conclusion, from researching it became clear that there are aspects within the setting such as class layout and acoustics that can impact on a child with hearing impairment's behaviour. However, this case study highlight that the strategies used within the setting are both affective and ineffective. Moreover, it became apparent that the classroom acoustics are a constant battle for an educator to which require the implementation of certain classroom adaptations such as carpets and turning electrical equipment off. However, on the other hand, strategies such as table layout can be ineffective as the layout in one class is not mirrored throughout the setting.

Under the Equality Act (2010) settings are required to adjust their settings in order to provide an inclusive environment for all children. As children spend most of their school day listening to others both in the classroom and surrounding areas within the setting, it is vital that the school provides appropriate conditions for child A (NDCS, 2015).

In summary, by making small adaptations within the classroom and school environment such as location within the classroom it evidently had a positive impact on Child A's behaviour as there was a reduction in frequency of misbehaviour. In conjunction, theorists such as Abraham Maslow (1970) believed that "belonging was an essential and prerequisite human need that had to be met before one could achieve a sense of self-worth" (Kunc, 1992, p5). Furthermore, Maslow believed that when we

are “anchored within a community do we develop self-esteem” (Kunc, 1992, p5). Thus, promoting the need to identify children’s needs and adapting the setting in order to provide an inclusive environment and consequently allowing for the development of self-esteem. This was apparent with Child A after the adaptations such as the classroom layout, his self-esteem had improved which further led to a positive attitude towards learning and literacy lessons. This allowed for further development regarding his IDP as he felt calm and in control of his own learning. With the new Donaldson (2015) curriculum on the horizon, this is an important factor within children’s education as in accordance with the UNCRC Article 28 every child has a right to an education regardless of ability.

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Appendices.

Appendix 1 – Child A's IDP

Appendix 2 – Classroom Layout

Appendix 3 - Acoustic Temperature and Behaviour Results

Appendix 4 – Sample of anecdotal notes

Appendix 5 – Observations of class teacher

Appendix 6 – radio microphone used with Child A

Appendix 7 – Angled 'U shaped' desk arrangement

Appendix 8 – Red and green disk

Appendix 1

A copy of Child A's IDP. Information has been anonymised in line with current Data Protection Laws.

Cynllun Addysg Unigol

Enw: [REDACTED] D.G.: [REDACTED]

Blwyddyn/Athrawes/Athro: [REDACTED]

Band orionau: **O A B C Cs** Gwybodaeth Bwysig

Ymateb graddoledd: **GY** (Swchredu Ysgol) **GY+** (Swchredu Ysgol a Bwrdd) **D** (Datgymal)

Rydwr i'n gallu (plentyn a'r athro/athrawes)	Hoffen allu (plentyn a'r athro / athrawes)
Rydwr i'n gallu chwarae pel droed yn dda Rydwr i'n gallu geneud Mathemateg yn dda [REDACTED]	Hoffen wella ysgrifennu-creu brawddegau Hoffen i wella mwerau. Gwneud [REDACTED]

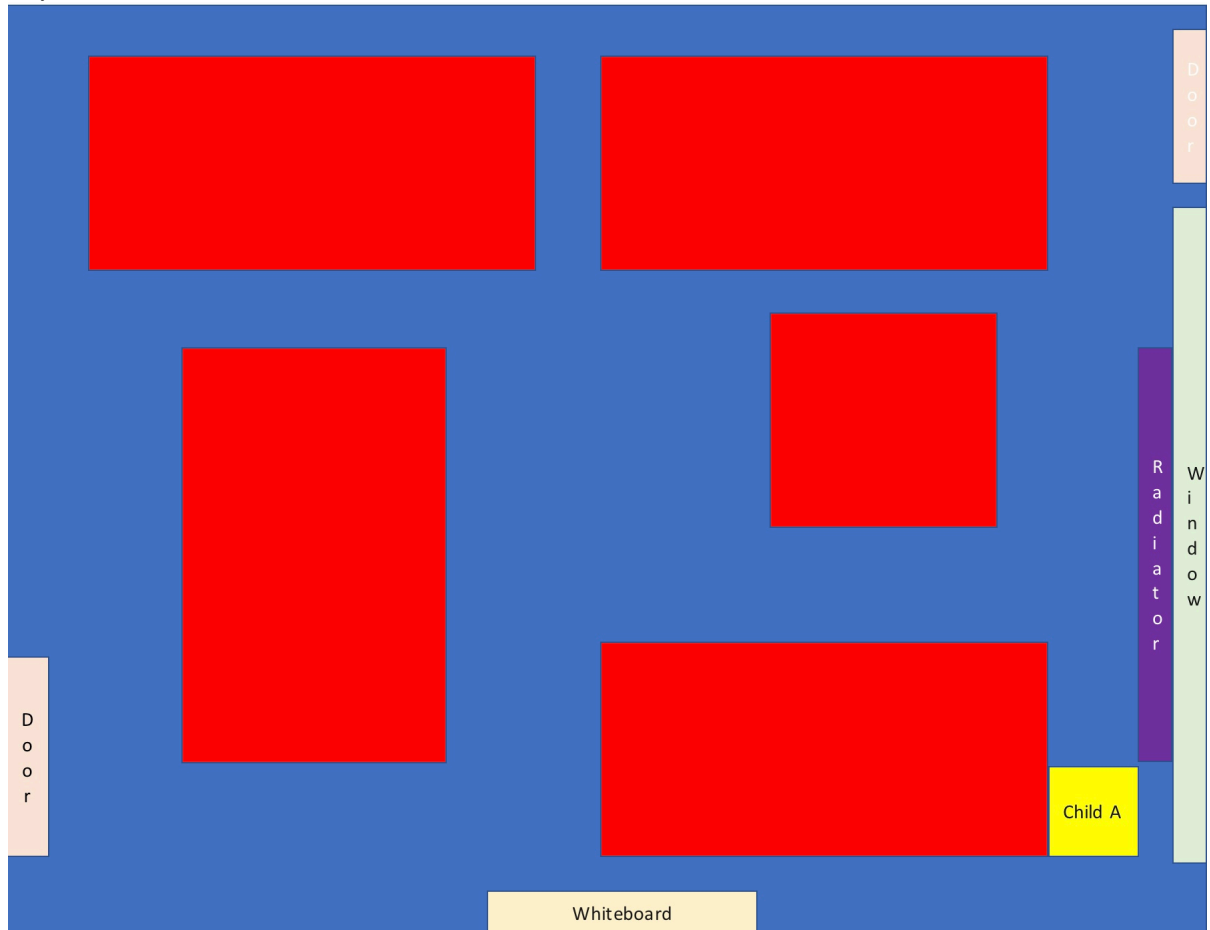
Creuwyd y cynllun yma gyda'r plentyn a'u gwybodaeth fel bod y plentyn yn eiddo'r athro/athrawes a'r rhani yn bennaf perchnogaeth arni. Rydym yn gobeithio y bydd hyn yn ysgogi'r plentyn i gwybodaeth a'u cyflwynu wrth oriole at y targedau.

Rhaglen Addysgol Unigol (RhAU) - TARGEDAU

Fy nhargedau.	Pwy fydd yn fy helpu i gyrraedd y darged hon?	Sut byddaf yn mynd ati i gyrraedd y darged hon? e.e. strategaethau; oednodau	Sut byddaf yn gwybodaeth Fy sylwadau i / fy athro neu athrawes / fy rhani trwy gyrraedd at y RhAU = dyddiadau
[REDACTED]	[REDACTED]	[REDACTED]	

Appendix 2.

Layout of Classroom and location of Child A



Appendix 3

Acoustics Temperature and Behaviour chart for Child A over a 2-week observation period

Week 1				
Monday	Session 1	Session 2	Session 3	Session 4
Acoustics (dbs.)	31	37	36	36
Temperature (C)	19	25	23	20
Behaviour				

Tuesday	Session 1	Session 2	Session 3	Session 4
Acoustics (dbs.)	27	42	39	41
Temperature©	18	30	27	28
Behaviour				

Wednesday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	30	40	30	30
Temperature©	18	27	22	23
Behaviour				

Thursday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	Child A was absent from school			
Temperature©				
Behaviour				

Friday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	32	30	34	50
Temperature©	19	22	25	24
Behaviour				

Week 2

Monday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	37	42	35	36
Temperature©	25	26	24	25
Behaviour				

Tuesday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	30	39	38	30
Temperature©	18	20	21	21
Behaviour				

Wednesday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	36	43	40	33
Temperature©	23	25	25	26
Behaviour				

Thursday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	38	40	absent due to illness	
Temperature©	18	20		
Behaviour				

Friday	Session 1	Session 2	Session 3	Session 4
Acoustics(dbs.)	Child A was absent from school			
Temperature©				
Behaviour				

Behaviour Key	
	Aggressive Behaviour
	Unsatisfactory Behaviour
	Restless
	Very Good Behaviour

Acoustic and Temperature Key	
	Inappropriate
	Not Preferred
	Manageable
	Optimal

Appendix 4 A Sample of anecdotal observations from various times of day.

Week: 2 Hearing Aids: X
 Session: 2 (am)
 Lesson Observed: Comprehension

Learning environment:

- Increased level of background noise: window open
 - children reading aloud.
 - outside noise levels (high)
- Above average temperature.

Behaviour displayed:

- irritable, constantly adjusting hearing aid.
- Slumped in chair.
- looking around class. Minimal attention maintained on task.

Strategies used:

- no mic worn.
- offered time in sensory room.
- ~~no~~ constant attention grabbed

Week 2 hearing aids X
 Session 3 (pm)
 Lesson observed: Physical Education.

Learning environment:

- Amplified background noise i.e. traffic
- good temperature
- fresh air
- Kinesthetic activity

Behaviour displayed:

- attention maintained at start of lesson
- became frustrated towards end of session with peers.
- Refusal of modelling when asked.

Strategies used by staff:

- modelled activity + repeated.
- Child 1 was in clear view of educator when needed.
- Assurance of Child 1's understanding was obtained.

Week: 1 Hearing Aids: ✓
 Session: 1 numeracy (am)
 Lesson Observed: ~~addition~~ addition

* Learning environment:

- calm, quiet + relaxed
- well ventilated
- good temperature

* Behaviours displayed:

- active participation
- no fidgeting
- followed educator + maintained attention.
- raised hand to answer question

* Strategies used:

- Visual display on whiteboard.
- rewards for effort + correct answers.
- Recognition of positive behaviour
- microphone was worn.

Appendix 5 Observations of class teacher

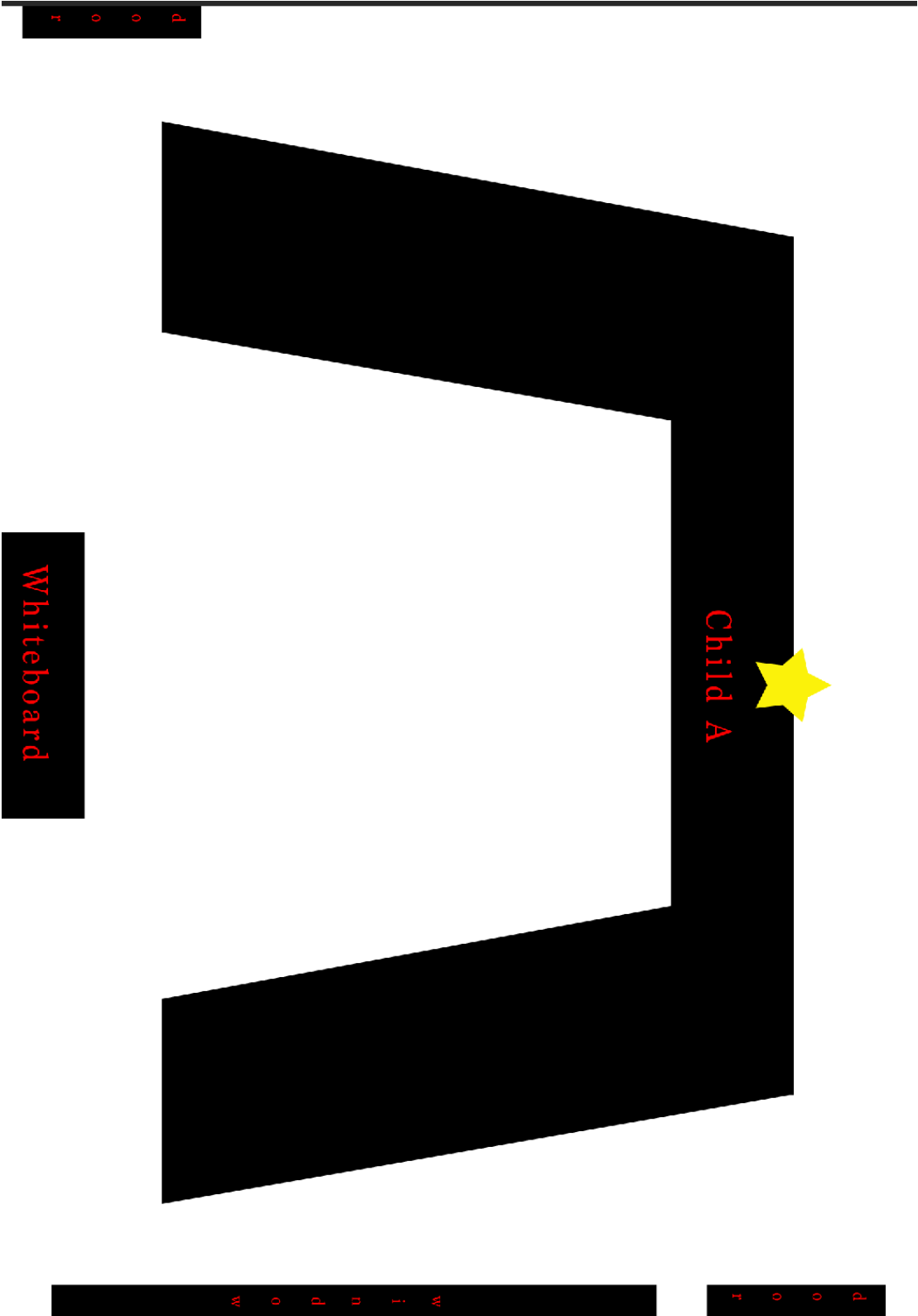
Teachers Observations.

- Child A would be inconsistently remembering his hearing aids ⇒ resulting in incidents of misbehaviour.
- enjoyed numeracy and hands on kinaesthetic lessons.
- would lose attention close to the end of second session before lunch.
- often have to deal with incidents involving Child A during dinner break.
- expressed a disinterest in many literacy lessons.
- would display distracting behaviours such as fidgeting
- often refused the sensory room but always had the option.

Appendix 6 Image of radio microphone used with Child A



Appendix 7 Angled 'U Shape' class layout



Appendix 8 Red and Green Disk



